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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,635	10/27/2003	Robert Kamenoff	30952_CIP	2632
29773 7590 01/29/2007 RICHARD K. WARTHER ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			EXAMINER BOATENG, ALEXIS ASIEDUA	
			ART UNIT 2838	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/29/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/694,635		KAMENOFF, ROBERT	
	Examiner		Art Unit	
	Alexis Boateng		2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4, and 12 - 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, and 12 - 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz (U.S. 5,834,131) in view of Hall (U.S. 5,773,955) and in further view of Rosenbluth (U.S. 5,710,507) and in further view of Matsuyama (U.S. 2001/0004198).

Regarding claim 1, Lutz discloses wherein a self-heating battery for delivering its rated capacity when the battery is below a temperature when available battery capacity is limited comprising:

a battery (figure 2 item 18);

a heating element operatively connected to the battery and powered therefrom for heating the battery (figure 2 item 24);

a temperature sensor for determining the temperature of a battery and sensing temperature where available capacity is limited indicative of a predetermined temperature above a minimum specified operating temperature of the battery (figure 2 item 26); and

a switch circuit operatively connected to said heating element and temperature sensor (figure 2 item 36) and responsive to said temperature sensor for switching on the heating element and raising the temperature of the battery to

allow the battery to deliver its rated capacity when a sensed temperature of the battery is below the temperature where available capacity is limited (figure 2 item 36; column 4 line 44 – column 5 line 15); a load current sensor (figure 2 item 40). Lutz discloses the invention as previously claimed, but does not disclose wherein said switch circuit comprising non-parallel, serially connected transistors, and further comprising a comparator circuit operatively connected to said temperature sensor and having an output operatively connected to at least one transistor in said switch circuit to switch on the heating element when temperature is below a temperature where available capacity is limited. Hall discloses in figure 5 wherein the power converter, item 24, includes switching circuits, item 100a, 100b, and 100c, having serially connected transistors, items 102a – c. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz system with the Hall system so that the current is regulated in the system and an overcurrent is not provided to the heating resistors, which can be fatal to the resistors and the system. Neither Lutz nor Hall discloses the remainder of the claim. Rosenbluth discloses in figure 2, wherein a comparator circuit, item 245, is operatively connected to a temperature sensor, temperature transducer item 230, and connected to at least one transistor, item 270, when the temperature is below a temperature where available capacity is limited. Rosenbluth explains this further in column 5 line 14 to column 6 line 45. Rosenbluth further discloses in column 5 line 14 to column 6 line 45 wherein the comparators are connected to a current sensor and switch the circuit to lock out

the heating element when a battery cell is not in use. The two amplifiers, item 245 and 240 are connected to the current limited adjustable regulator, act as low and high current comparators because the comparators are capable of comparing both voltage and current. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz and Hall system with the Rosenbluth so that if the battery temperature falls below some minimum level, it can be accurately monitored and heat can be effectively provided to the battery at the proper time. Lutz does not disclose wherein a battery discharging circuit connected to said battery for discharging the battery. Lutz also does not further disclose wherein a light sensing circuit operatively connected to the battery discharge circuit that actuates the battery discharge circuit after exposing to light the light sensing circuit. Matsuyama discloses in figure 3 wherein a battery discharge circuit, item 7, operative with the battery that when actuated, discharges the battery. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz system with the Matsuyama system so that discharging is regulated.

Regarding claim 3, Lutz discloses wherein a transistor in said switch circuit comprises at least one field effect transistor (column 5 lines 56 – 58).

Regarding claim 4, neither Lutz nor Hall disclose wherein said comparator connected to said switch and said temperature sensor is operative for comparing temperature differential and turning the switch on and off and controlling operation of the heating element. Rosenbluth discloses in column 5 line 14 to

column 6 line 45 wherein the comparator 245 is connected to the temperature transducer and is switched is off when the battery is not in use. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz and Hall system with the Rosenbluth system so that the battery is not overheated while it is not in use.

3. Claim 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz (U.S. 5,834,131) in view of Hall (U.S. 5,773,955) and in further view of Rosenbluth (U.S. 5,710,507) as applied to claim 1 and in further view of Matsuyama (U.S. 2001/0004198).

Regarding claim 12, Lutz does not disclose wherein a battery discharging circuit connected to said battery for discharging the battery. Lutz also does not further disclose wherein a light sensing circuit operatively connected to the battery discharge circuit that actuates the battery discharge circuit after exposing to light the light sensing circuit. Matsuyama discloses in figure 3 wherein a battery discharge circuit, item 7, operative with the battery that when actuated, discharges the battery. In figure 3, Matsuyama further discloses wherein a light sensing circuit, solar panel item 4, operatively connected to the battery discharge circuit that actuates the battery discharge circuit after exposing to light the light sensing circuit. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz system with the Matsuyama system so that discharging is regulated and so that an alternate method of regulated discharge is provided with the solar panel.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz (U.S. 5,834,131) and Matsuyama (U.S. 2001/0004198) in view of McGrath (U.S. 5,939,865).

Regarding claim 13, neither Lutz nor Matsuyama do not disclose wherein the system further comprises a charge protection circuit operatively connected to said battery for limiting damage to the battery during charging. McGrath discloses in figure 4 item 9, wherein an overcharge protection circuit is implemented during charging. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz system with the McGrath system, so that battery is not overcharged which can damage the battery.

5. Claims 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz (U.S. 5,834,131) and Matsuyama (U.S. 2001/0004198) in view of Okutoh (U.S. 5,853,908).

Regarding claims 14, neither Lutz nor Matsuyama discloses wherein the system comprises a flying cell circuit operatively connected to said battery for meeting open circuit an cut-off voltage requirements. Okutoh discloses in figure 1 item 1 wherein an extra cell is employed when there is an over-voltage detected. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz and the Matsuyama system so that the battery is protected from over-voltage and the battery life is extended.

Response to Arguments

3. Applicant's arguments filed 10/13/06 have been fully considered but they are not persuasive. **Regarding claim 1**, the applicant argues that the temperature sensor does more than determine the temperature, but also senses the temperature when the battery temperature is below a temperature where available capacity is limited, indicative of a predetermined temperature above a minimum specified operating temperature of the battery. The Lutz reference discloses in figure 2 wherein item 26 is a temperature sensor, that senses the temperature at all time, so that when the battery temperature is low, the temperature is sensed. The applicant continues to argue wherein the Hall system does not only show switch circuits with non-parallel, serially connected transistors. The Hall reference discloses in figure 5 wherein each individual switch circuit, items 100a – c, contain serially connected transistors, items 102a and 102'a and so on.

4. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, regarding claim 1, please motivation above.

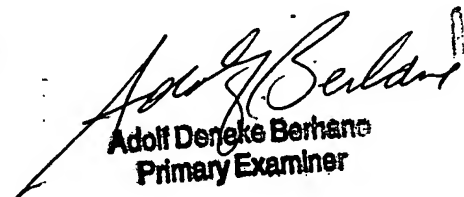
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexis Boateng whose telephone number is (571) 272-5979. The examiner can normally be reached on 8:30 am - 6:00 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB


Adolf Dengke Berhane
Primary Examiner